Frieder Klein

List of Publications by Year
in descending order

33 papers	2,069 citations	257450 24 h-index	414414 32 g-index
35 all docs	35 docs citations	35 times ranked	1860 citing authors

#	Article	IF	Citations
1	Quantifying the effects of hydrogen on carbon assimilation in a seafloor microbial community associated with ultramafic rocks. ISME Journal, 2022, 16, 257-271.	9.8	12
2	Hydrogen generation from serpentinization of iron-rich olivine on Mars, icy moons, and other planetary bodies. Icarus, 2022, 372, 114754.	2.5	9
3	Synthetic fluid inclusions XXIII. Effect of temperature and fluid composition on rates of serpentinization of olivine. Geochimica Et Cosmochimica Acta, 2021, 292, 285-308.	3.9	16
4	Serpentinite-derived slab fluids control the oxidation state of the subarc mantle. Science Advances, 2021, 7, eabj2515.	10.3	23
5	Hydrogen generation and iron partitioning during experimental serpentinization of an olivineâ€“pyroxene mixture. Geochimica Et Cosmochimica Acta, 2020, 282, 55-75.	3.9	30
6	Hydrogenation reactions of carbon on Earth: Linking methane, margarine, and life. American Mineralogist, 2020, 105, 599-608.	1.9	9
7	Recycling and metabolic flexibility dictate life in the lower oceanic crust. Nature, 2020, 579, 250-255.	27.8	59
8	Abiotic Sources of Molecular Hydrogen on Earth. Elements, 2020, 16, 19-24.	0.5	62
9	Quantifying the volume increase and chemical exchange during serpentinization. Geology, 2020, 48, 552-556.	4.4	33
10	The effect of pH on rates of reaction and hydrogen generation during serpentinization. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20180428.	3.4	20
11	Chemical and isotopic analyses of hydrocarbon-bearing fluid inclusions in olivine-rich rocks. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20180431.	3.4	47
12	Abiotic methane synthesis and serpentinization in olivine-hosted fluid inclusions. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17666-17672.	7.1	105
13	Estimating the carbon content of the deep mantle with Icelandic melt inclusions. Earth and Planetary Science Letters, 2019, 523, 115699.	4.4	40
14	Fluidâ€“rock interactions in the shallow Mariana forearc: carbon cycling and redox conditions. Solid Earth, 2019, 10, 907-930.	2.8	16
15	Corrigendum to: â€˜Mid-ocean Ridge Serpentinite in the Puerto Rico Trench: from Seafloor Spreading to Subductionâ€™. Journal of Petrology, 2019, 60, 2547-2547.	2.8	0
16	Progress in Deciphering the Controls on the Geochemistry of Fluids in Seafloor Hydrothermal Systems. Annual Review of Marine Science, 2018, 10, 315-343.	11.6	51
17	Experimental study of carbonate formation in oceanic peridotite. Geochimica Et Cosmochimica Acta, 2017, 199, 264-286.	3.9	63
18	Effect of water activity on rates of serpentinization of olivine. Nature Communications, 2017, 8, 16107.	12.8	83

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19	Mid-ocean Ridge Serpentinite in the Puerto Rico Trench: from Seafloor Spreading to Subduction. Journal of Petrology, 2017, 58, 1729-1754.	2.8	28
20	Temperature trends for reaction rates, hydrogen generation, and partitioning of iron during experimental serpentinization of olivine. Geochimica Et Cosmochimica Acta, 2016, 181, 175-200.	3.9	143
21	Experimental constraints on fluid-rock reactions during incipient serpentinization of harzburgite. American Mineralogist, 2015, 100, 991-1002.	1.9	66
22	Ultramafic clasts from the South Chamorro serpentine mud volcano reveal a polyphase serpentinization history of the Mariana forearc mantle. Lithos, 2015, 227, 1-20.	1.4	31
23	Calcite-accumulating large sulfur bacteria of the genus Achromatium in Sippewissett Salt Marsh. ISME Journal, 2015, 9, 2503-2514.	9.8	29
24	Fluid mixing and the deep biosphere of a fossil Lost City-type hydrothermal system at the Iberia Margin. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12036-12041.	7.1	89
25	Thallium as a tracer of fluidâ€“rock interaction in the shallow Mariana forearc. Earth and Planetary Science Letters, 2015, 430, 416-426.	4.4	40
26	From serpentinization to carbonation: New insights from a CO2 injection experiment. Earth and Planetary Science Letters, 2013, 379, 137-145.	4.4	78
27	Compositional controls on hydrogen generation during serpentinization of ultramafic rocks. Lithos, 2013, 178, 55-69.	1.4	202
28	Thermodynamic constraints on mineral carbonation of serpentinized peridotite. Lithos, 2011, 126, 147-160.	1.4	113
29	Magmatic influence on reaction paths and element transport during serpentinization. Chemical Geology, 2010, 274, 196-211.	3.3	42
30	The petrology of seafloor rodingites: Insights from geochemical reaction path modeling. Lithos, 2009, 112, 103-117.	1.4	131
31	Serpentinized troctolites exposed near the Kairei Hydrothermal Field, Central Indian Ridge: Insights into the origin of the Kairei hydrothermal fluid supporting a unique microbial ecosystem. Earth and Planetary Science Letters, 2009, 280, 128-136.	4.4	86
32	Iron partitioning and hydrogen generation during serpentinization of abyssal peridotites from 15Â°N on the Mid-Atlantic Ridge. Geochimica Et Cosmochimica Acta, 2009, 73, 6868-6893.	3.9	269
33	Complex magma storage and ascent at embryonic submarine volcanoes from the Madeira Archipelago. Geology, 2006, 34, 337.	4.4	44